BRINGELLY ROAD BUSINESS HUB
PROPOSED NULON MOTOR OILS FACILITY

SKYLINE CRESCENT, LEPPINGTON

Assessment of Traffic and Parking Implications

December 2017
(Rev F)

Reference 17184 (C)

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LIST OF ILLUSTRATIONS

1. INTRODUCTION

A Staged Development Application (SSD 6324) has been approved by the Minister for Planning and Environment for a Concept Plan for Bringelly Road Business Hub (BRBH) on a Western Sydney Parklands landholding on Bringelly Road at Leppington.

This Traffic Impact Assessment has been prepared in relation to SSD 8900 for a proposed Nulon Motor Oils Facility on Lot 8 in the BRBH and responds to the SEARS which specify the following in regards to Traffic and Access:

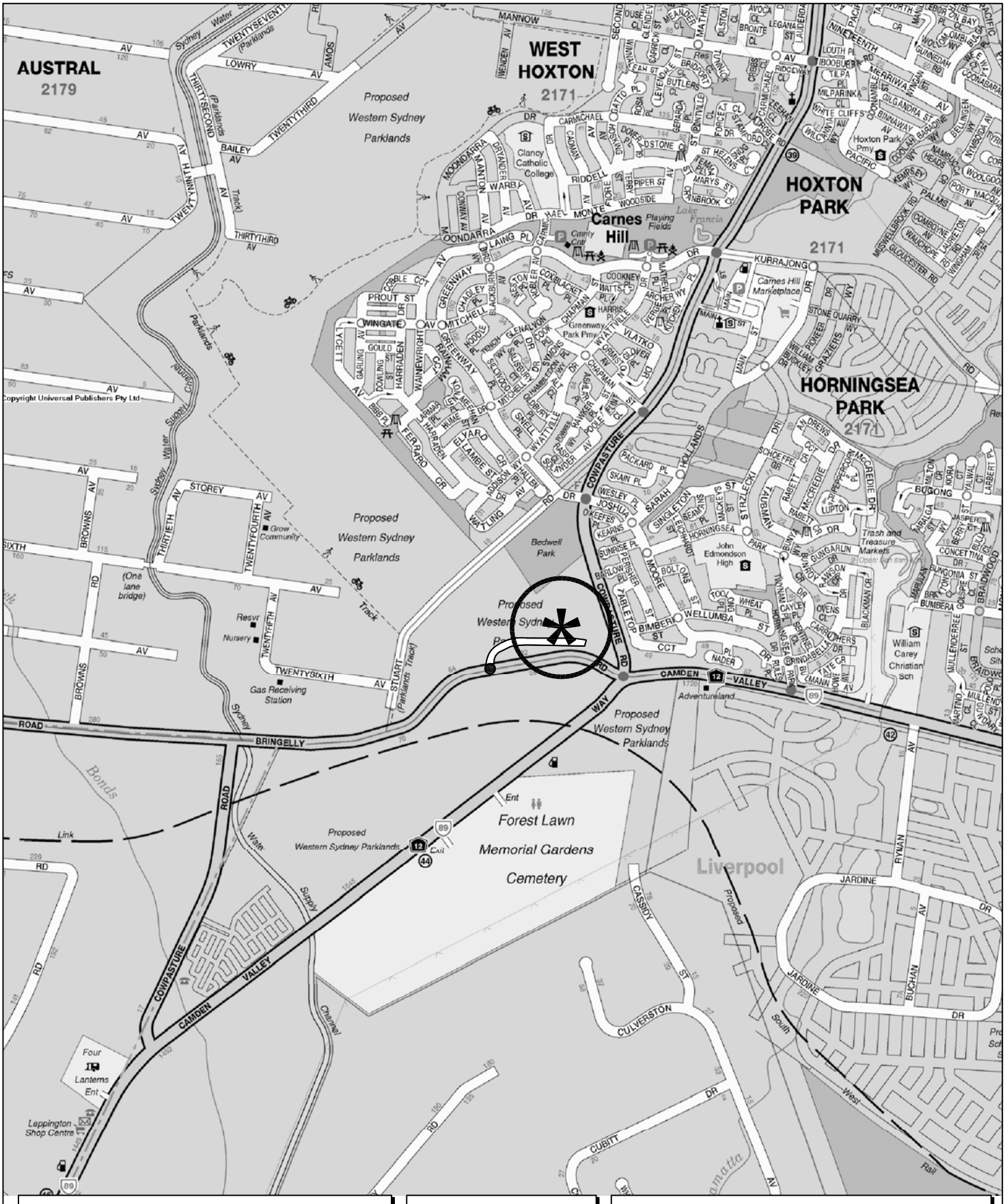
- *a quantitative Traffic Impact Assessment prepared in accordance with the relevant Council, Austroads and Roads and Maritime Services guidelines;*
- *details of all daily and peak traffic and transport movements likely to be generated by the development (vehicle type, public transport) during construction and indicative operation;*
- *details and a justification of access to, from and within the site (vehicular and pedestrian);*
- *impacts on the safety and capacity of the surrounding road network (including intersections along Bringelly Road and Cowpasture Road) and access points, using SIDRA modelling or similar to access impacts from current traffic counts and cumulative traffic from existing and proposed development;*
- *demonstrate the sufficient loading/unloading, car parking and pedestrian and cyclist facilities have been provided for the development; and*
- *details of road upgrades, new roads or access points required for the development, if necessary.*

The proposed development scheme for Nulon Motor Oils involves:

Warehouse	9,210m^2
Office	800m^2
Bulk Store	521m^2
Tanker Unloading	165m^2
Total:	**10,696m^2**

The purpose of this report is to:

* describe the site, the BRBH developme+nt scheme and the proposed development
* describe the road network serving the site and the prevailing traffic conditions
* assess the adequacy of the proposed parking provision
* assess the potential traffic implications
* assess the suitability of the proposed vehicle access, internal circulation and servicing arrangements
* respond to the SEARS



LEGEND

LOCATION

FIG 1

2. PROPOSED DEVELOPMENT SCHEME

2.1 SITE, CONTEXT AND EXISTING CIRCUMSTANCES

The Bringelly Road Business Hub (BRBH) site is a consolidation of numerous lots occupying an irregular shaped total area of some 21ha incorporating some 8,000m^2 of the existing Bringelly Road reservation. The site (Figure 2) is Lot 8 within the BRBH subdivision being a generally rectangular shaped allotment of some 21,967m^2 with a frontage to Skyline Crescent which will connect to Bringelly Road.

The site is located just to the west of Cowpasture Road and to the north of the South West Rail Line being some 2.5 km to the east of Leppington Railway Station and the future commercial centre.

The surrounding uses comprise:

* the adjoining rural residential property to the east with access provided by Bringelly Road and the Horningsea Park residential area on the eastern side of Cowpasture Road
* the rural residential lands to the west and south
* the Carnes Hill residential area and Western Sydney Parklands extending to the north
* the new Edmondson Park residential area to the south-east

2.2 BRINGELLY ROAD BUSINESS HUB

The site will be cleared with relatively minor earthworks undertaken (fill imported) to provide for the new access road system and site "benching" etc. The proposed subdivision involves 8 lots with an access road system (Skyline Crescent) which will:

* connect to Bringelly Road

LEGEND

SITE

FIG 2

- largely retain the existing section of Bringelly Road (with some modification in the western part where it will connect to the new section of Bringelly Road)
- provide for a potential connection to another WSP landholding to the west which is envisaged to be developed for tourism, sporting and active hub uses
- provide for a emergency link to Stuart Road
- maintain access for the adjoining rural residential property to the east

Details of the proposed lot layout and access road system are provided on the diagram overleaf.

RMS have undertaken roadwork upgrading on Bringelly Road and traffic signals will be installed at the BRBH access intersection and the supplementary turning lanes in Bringelly Road will be opened at that time.

2.3 PROPOSED DEVELOPMENT

The proposed development scheme involves minor earthworks to provide level platforms for the building and hardstand areas and to install services. The warehouse building will be constructed on the central and eastern part of the site with an office area (2 level) on the southern side and loading dock/bulk storage on the western side.

The development will comprise:

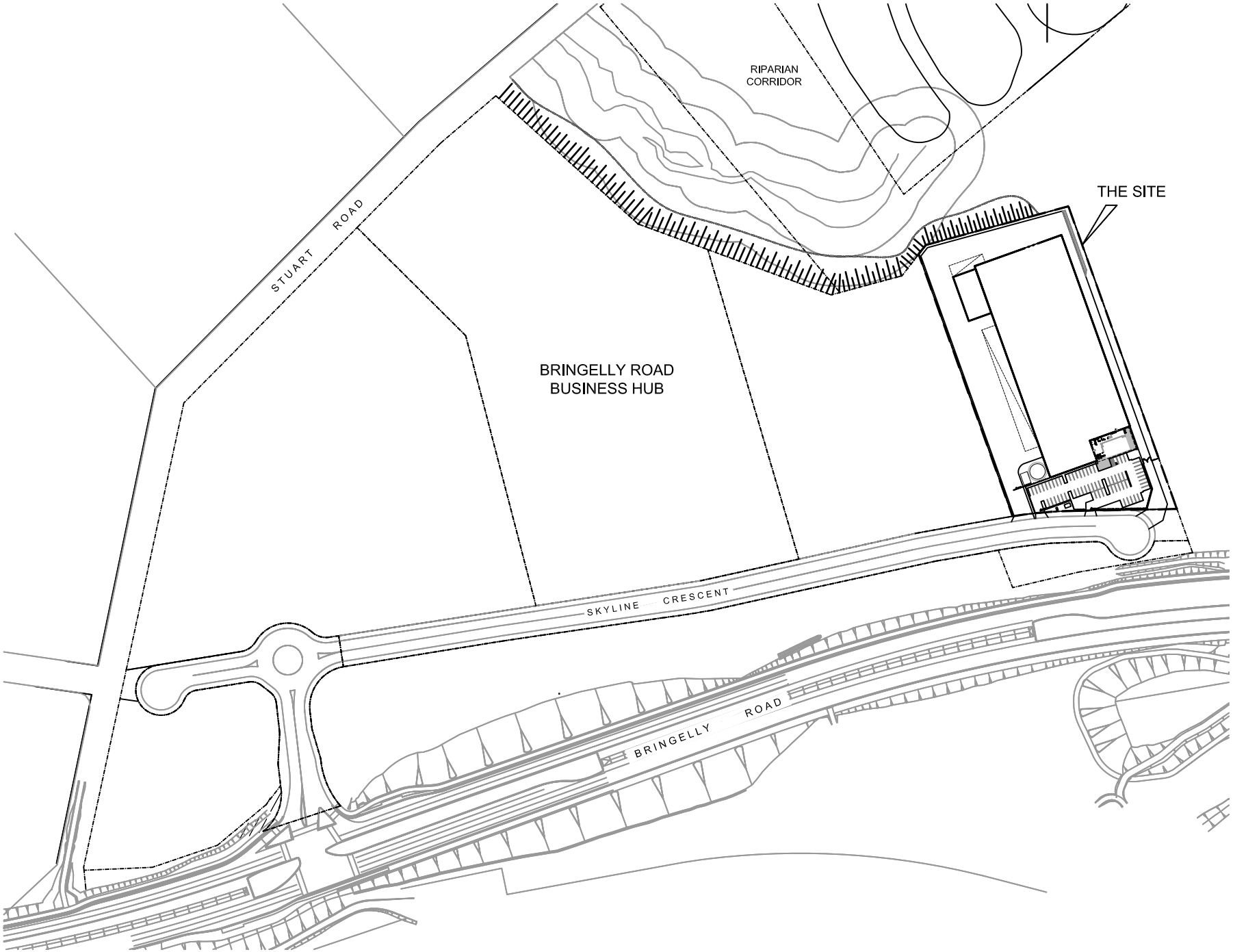
Warehouse	9,210m^2
Office	800m^2
Bulk Store	521m^2
Tanker Unloading	165m^2
Total:	**10,696m^2**

It is proposed to provide a total of 70 parking spaces in the frontage area with separate access driveways for cars and trucks.

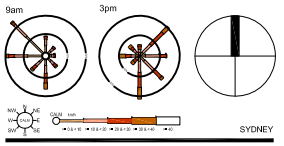
Details of the proposed development are provided on the plans which accompany the Development Application and are reproduced in part in Appendix A.

REVISIONS

1	Issued for coordination	10.11.17
2	Amended building footprint	21.11.17



Charter Hall



CIP DEVELOPING RELATIONSHIPS BUILDING SUCCESS

PROJECT

NULON MOTOR OILS

BRINGELLY ROAD
BUSINESS HUB, NSW

DRAWING TITLE

MASTERPLAN

0 25 50 75 100 125m

SCALE: 1 : 2500 @ A3

CREATE DATE : 22.11.2017 PLOT DATE : 21.11.2017

LAST SAVED BY: JMit

2-319-277062-DA (2)-001 1

FILE LOCATION: T:\WORK17\17184 - CIP BRINGELLY ROAD\DRAWINGS\2-319-277062-DA (2)

3. ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

The existing road network serving the site (Figure 3) comprises:

- *Camden Valley Way* – a State Road and arterial route which connects between the Hume Highway at Casula and Camden
- *Cowpasture Road* – a State Road and arterial route which connects between the Horsley Drive at Bossley Park and Camden Valley Way at Horningsea Park
- *Bringelly Road* – a State Road and sub-arterial route which connects between Cowpasture Road / Camden Valley Way at Horningsea Park and The Northern Road at Bringelly
- *Cowpasture Road (South)* – a State Road and Collector route which connects between Camden Valley Way and Bringelly Road
- The collector road systems serving Horningsea Park, Carnes Hill and Edmondson Park
- *Stuart Road* – a local access road, connecting to Greenway Drive

RMS are upgrading Bringelly Road over the 10km length between Camden Valley Way and The Northern Road and this work will complement the completed work on Camden Valley Way and current construction for The Northern Road as indicated on the diagram overleaf.

The upgrade works on Bringelly Road are being staged with construction undertaken between 2016 and 2036 as suggested on the schedule reproduced overleaf from the AECOM Traffic and Transport Modelling Assessment undertaken for RMS.

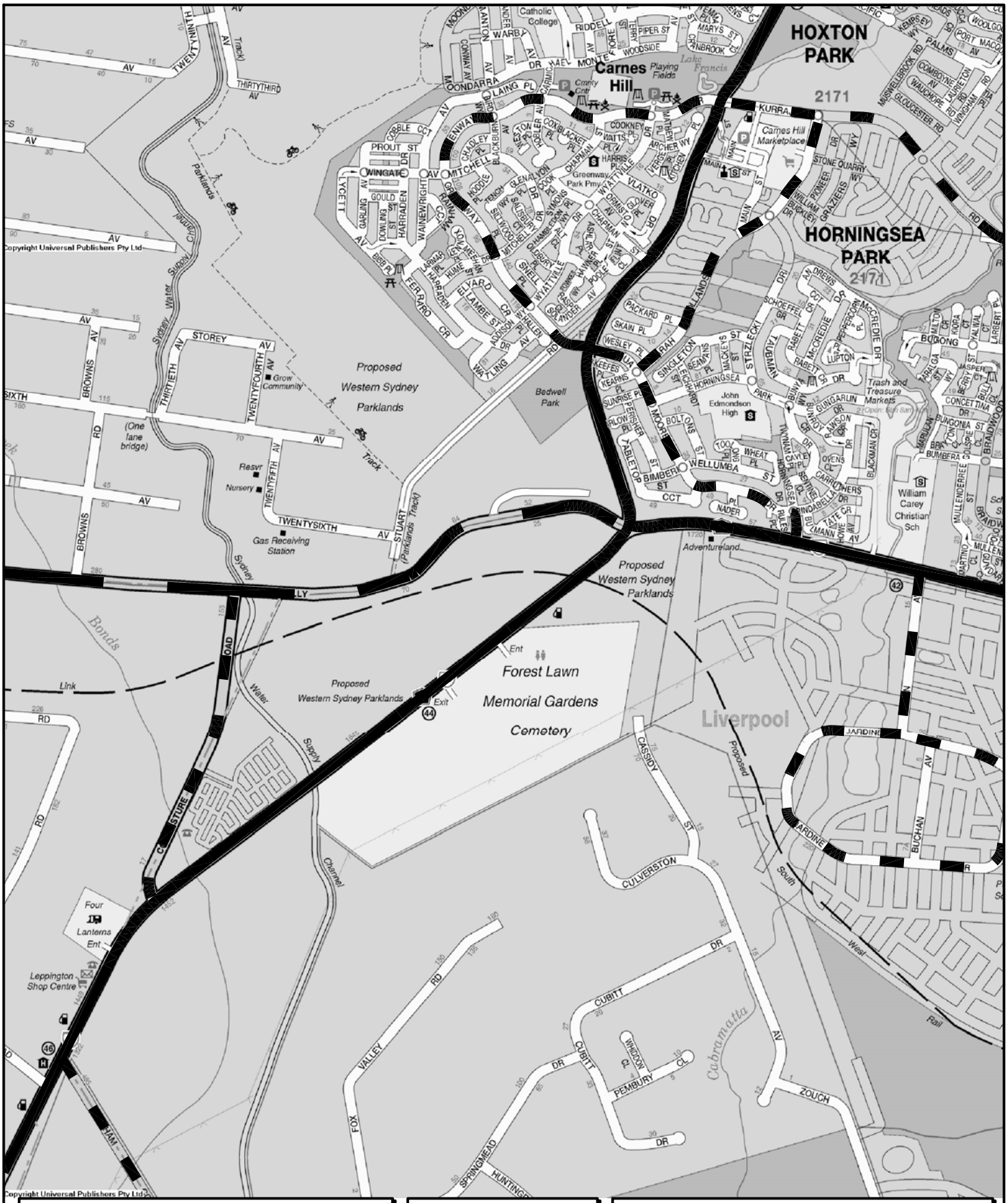

HOXTON PARK
2171
HORNINGSEA PARK
2171
Carnes Hill
Carnes Hill Marketplace
Greenway Park Pmy
Catholic College
Lake Francis
Playing Fields
Cmnty Cntr
Bedwell Park
Proposed Western Sydney Parklands
Grow Community
Nursery
Resvr
Gas Receiving Station
(One lane bridge)
Sydney Water Supply
Parklands
Track
(Parklands Track)
STUART
STOREY AV
THIRTIETH AV
TWENTYFOURTH AV
TWENTYFIFTH AV
TWENTYSIXTH AV
TWENTYNINTH AV
THIRTYTHIRD AV
BROWNS RD
SIXTH
Copyright Universal Publishers Pty Ltd
Forest Lawn Memorial Gardens Cemetery
Ent
Exit
Adventureland
John Edmondson High
William Carey Christian Sch
Trash and Treasure Markets
Liverpool
Bonds
Link
Water Supply
Channel
Four Lanterns Ent
Leppington Shop Centre
CULVERSTON
CUBITT
PEMBURY
WHIDDON
ZOUCH
VALLEY
FOX
SPRINGMEAD
HUNTINGDALE
JARDINE
BUCHAN
CASSIDY
Cabramatta
South West Rail
Proposed
KURRA
STONE QUARRY
WILLIAM BUCKLEY
PIONEER
GRAZIERS
MAIN
WAINEWRIGHT
MITCHELL
OWINGATE
PROUT ST
GOULD ST
HARRADEN
FERRARO CR
ELVARO
ELLAMBEE ST
WAYLING
HUNE ST
LAING PL
MOONDARRA
WARBY
RIDDELL
PIPER ST
WOODSIDE
MARYS ST
HAELMONTE
CONWAY AV
MANTON
CHARLEY PL
BLACKBURN
COOKNEY
WATTS
HARRIS
CHAPMAN
VLATKO
ORMISTON
SIMONS
SALISBURY
MITCHELL
GLENALVON
COOK
FENCH
SILWOODHILL
WYATTVILLE
SNELL
QUARRY
HUNTER
POOLE
PACKARD
SKAIN
WESLEY
RAH
SINGLETON
KEEFES
KEARNS
SUNRISE
PERISHER
MOORE
BOLTONS
TABLETOP
BIMBERI
WELLUMBA
WHEAT
NADER
HORNINGSEA
STRZLECKI
LUGMAN
LUPTON
RABETT
McCREDIE
PEPPERCORN
SCHOEFFEL
DREWS
BUGONG
GUNGARLIN
BUNDOY
RAMSON
BLACKMAN
CARRUTHERS
TYNAMARSH
OVENS
TATE
MULLENDEREE
BUNGONIA
BUMBERA
CONCETTINA
BRADWOOD
KORA
MILTON
LARBERT
JASPER
BERRY
HARLIGA
MARUAN
SOLSPIE
KEMPSEY
WOOLGOOLGA
PORT MACQUARIE
MUSWELLBROOK
COMBOYNE
LAURIETON
WAUCHOPE
GLOUCESTER
WINGHAM
PALMS
LEGEND
ARTERIAL
SUB-ARTERIAL
COLLECTOR
N
ROAD NETWORK
FIG 3

Table 1: Intersection upgrade staging

Intersection	2011	2016	2021	2026	2031	2036
The Northern Road	Existing layout	Extend turning bay lengths	Upgrade intersection - **two lanes** on Bringelly Road approaches	-	-	Ultimate layout
Kelvin Park Drive	Existing layout	-	Upgrade intersection - **signalisation** and **two lanes** on Bringelly Road approaches	-	-	Ultimate layout
Jersey Road	Existing layout	-	Upgrade intersection * - **signalisation** and **two lanes** on Bringelly Road approaches	-	-	Ultimate layout
Masterfield Street	Existing layout	-	Upgrade intersection - **two lanes** on Bringelly Road approaches (priority intersection)	-	Upgrade intersection - **signalisation** and **two lanes** on Bringelly Road approaches	Ultimate layout
North Avenue	Existing layout	-	Upgrade intersection *- **signalisation** and **two lanes** on Bringelly Road approaches	-	-	Ultimate layout
King Street	Existing layout	-	Upgrade intersection - **signalisation** and **two lanes** on Bringelly Road approaches	-	-	Ultimate layout
Eastwood Road	Existing layout	-	Upgrade intersection *- **signalisation** and **three lanes** on Bringelly Road approaches	-	-	Ultimate layout
Fourth Avenue	Existing layout	-	Upgrade intersection - **signalisation** and **three lanes** on Bringelly Road approaches	-	-	Ultimate layout
Edmondson Avenue	Existing layout	Upgrade intersection - **signalisation** and **three lanes** on Bringelly Road approaches	-	Ban northbound and southbound right turn movements	Ban eastbound right turn movement	Ultimate layout
Browns Road	Existing layout	-	Upgrade to T intersection - **signalisation** and **three lanes** on Bringelly Road approaches	-	-	Ultimate layout
Cowpasture Road	Existing layout	Upgrade intersection - **signalisation** and **two lanes** on Bringelly Road approaches	-	-	Upgrade intersection - **three lanes** on Bringelly Road approaches	Ultimate layout

Source: AECOM, 2011

*- including an interim U-turn facilities to assist with local access with the upgrade of Bringelly Road to a divided carriageway

The staging proposals indicate that Bringelly Road across the site frontage will have 2 lanes each way between 2016 and 2031 with supplementary turning lanes at intersections and 3 lanes each way after 2031.

3.2 TRAFFIC CONTROLS

The existing traffic controls on the road network (Figure 4) comprise:

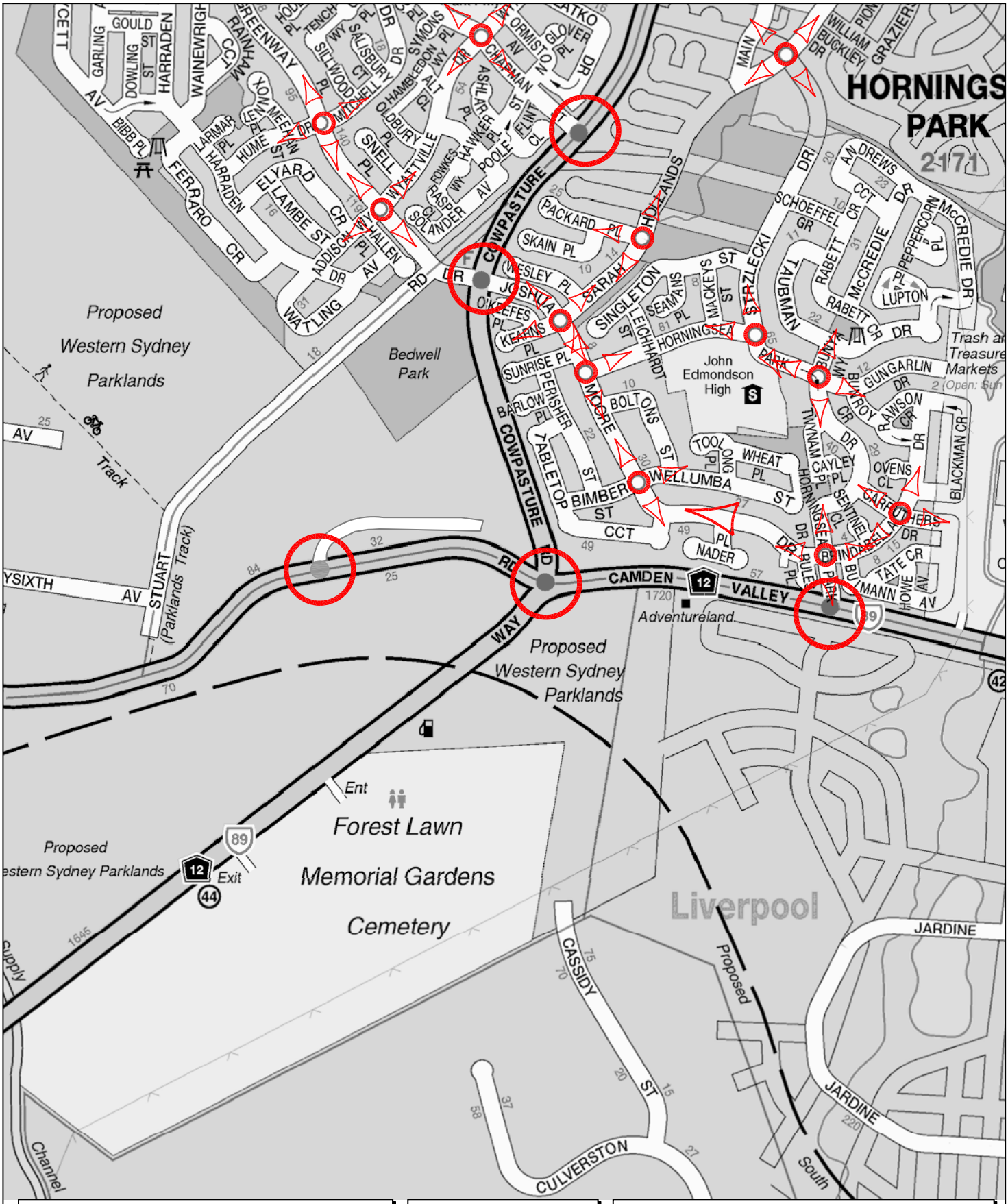
- the 70 kmph speed restriction on Bringelly Road east of Cowpasture Road (South) and 80 kmph to the west
- the traffic signals at the Bringelly Road, Cowpasture Road and Camden Valley Way intersection
- the central median island along Cowpasture Road

Details of the current and proposed arrangements at the Bringelly Road and Access Road intersection are provided on the image and plan overleaf.

3.3 TRAFFIC CONDITIONS

The projected traffic volumes at the intersection along Bringelly Road are identified in the AECOM Study for 2016, 2021, 2026 and 2031 weekday morning and afternoon peak periods. The projected flows past the site derived from the Cowpasture Road (south) intersection on this basis are provided in Figure 5.

The operational performance of access intersections as undertaken by AECOM having regard for the staging of the upgrade works and increasing traffic demands reveals the following operational satisfactory projected performances for the Cowpasture Road (south) intersection.



LEGEND

- TRAFFIC SIGNAL CONTROL
- ROUNDABOUT
- RESTRICTED TURNING MOVEMENT

TRAFFIC CONTROLS

FIG 4

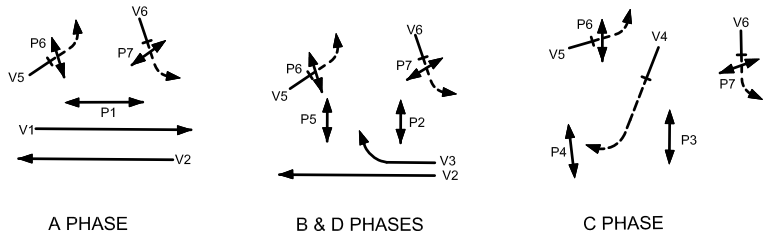

Search History
Street Maps
Properties
nearmap
current : clear : change
10 m
Terms of Use

TCS 4589

DRAWN BY CADD
DO NOT AMEND MANUALLY

DATE IN SERVICE : 00/00/00

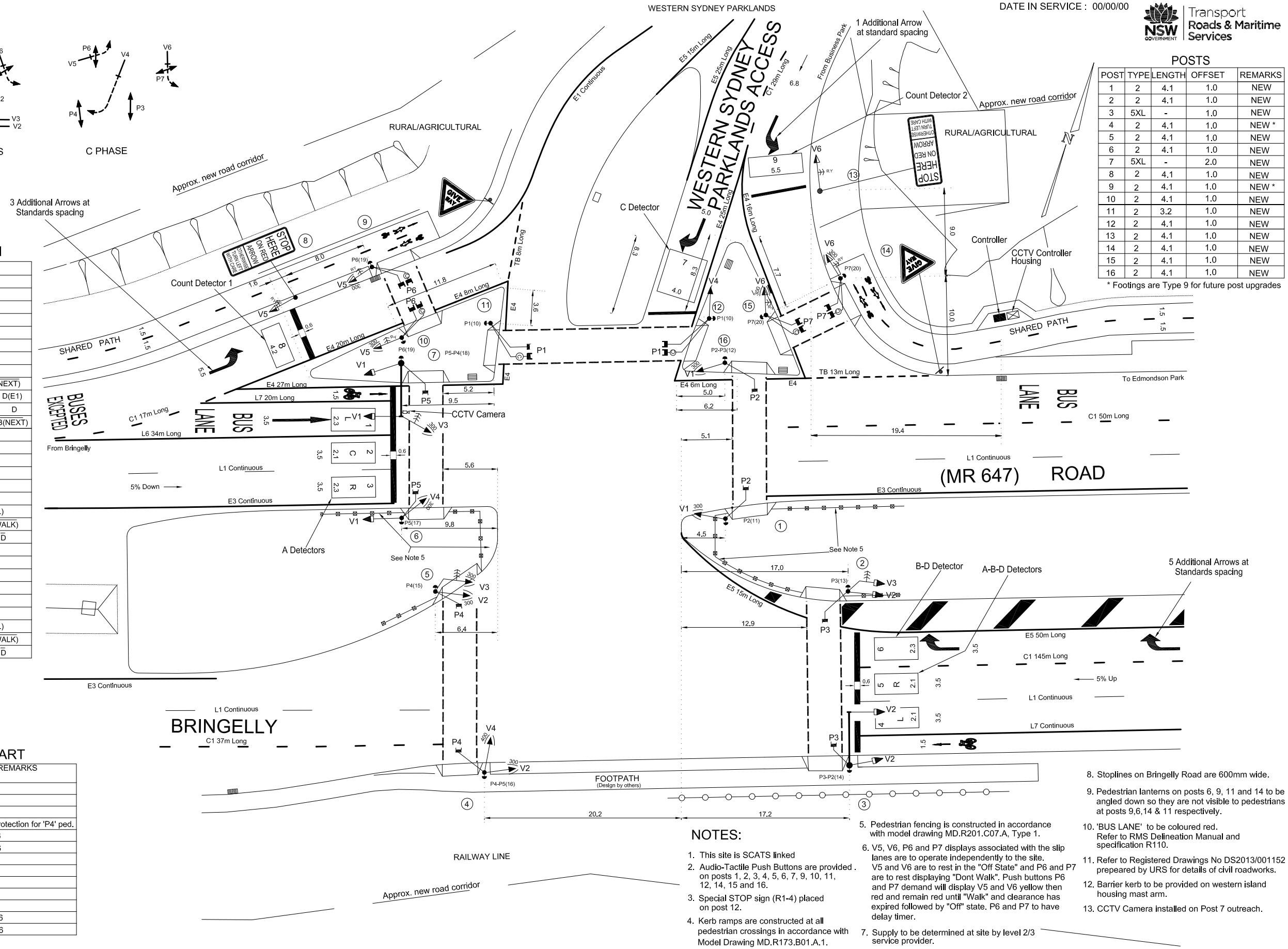
Transport Roads & Maritime Services



MOVEMENTS

DETECTOR SPECIFICATION

Detector	Specifications				
A	FN	A(L)	A(E1)		
	SG/PS	$\overline{A}$	A		
	DS				
A-B-D	FN	A(L)	A(E2)		
	SG/PS	$\overline{V2}$	A		
	DS	$\overline{B.D}$	$\overline{B(NEXT).D(NEXT)}$		
contd. A-B-D	FN	B(E2)		D(E2)	
	SG/PS	B		D	
	DS	$\overline{A(NEXT).D(NEXT)}$		$\overline{A(NEXT).B(NEXT)}$	
B-D	FN	B(L)	D(L)	B(E1)	D(E1)
	SG/PS	$\overline{V3}$	$\overline{V3}$	B	D
	DS	-	Z+	$\overline{D(NEXT)}$	$\overline{B(NEXT)}$
C	FN	C(L)	C(E1)		
	SG/PS	$\overline{C}$	C		
		-	-		
P1 P.B.	FN	A(PB)	Re-introduce Wak		
	SG/PS	$\overline{P1(WALK)}$	$A.\overline{P1(WALK)}$		
	DS	-	$\overline{B.C.D}$		
P2 P.B.	FN	B(PB)	D(PB)	A(L)	
	SG/PS	$\overline{P2(WALK)}$	$\overline{P2(WALK)}$	$B.\overline{P2(WALK)}$	
	DS	-	Z+	$\overline{A.C.D}$	
P3 P.B.	FN	C(PB)	A(L)		
	SG/PS	$\overline{P3(WALK)}$	$C.\overline{P3(WALK)}$		
	DS	-	$\overline{A.B.D}$		
P4 P.B.	FN	C(PB)	A(L)		
	SG/PS	$\overline{P4(WALK)}$	$C.\overline{P4(WALK)}$		
	DS	-	$\overline{A.B.D}$		
P5 P.B.	FN	B(PB)	D(PB)	A(L)	
	SG/PS	$\overline{P5(WALK)}$	$\overline{P5(WALK)}$	$B.\overline{P5(WALK)}$	
	DS	-	Z+	$\overline{A.C.D}$	



POSTS

POST	TYPE	LENGTH	OFFSET	REMARKS
1	2	4.1	1.0	NEW
2	2	4.1	1.0	NEW
3	5XL	-	1.0	NEW
4	2	4.1	1.0	NEW *
5	2	4.1	1.0	NEW
6	2	4.1	1.0	NEW
7	5XL	-	2.0	NEW
8	2	4.1	1.0	NEW
9	2	4.1	1.0	NEW *
10	2	4.1	1.0	NEW
11	2	3.2	1.0	NEW
12	2	4.1	1.0	NEW
13	2	4.1	1.0	NEW
14	2	4.1	1.0	NEW
15	2	4.1	1.0	NEW
16	2	4.1	1.0	NEW

* Footings are Type 9 for future post upgrades

SIGNAL GROUP/PHASE CHART

SIGNAL GROUP	PHASES WHEN GREEN A	B	C	D	STANDARD TABLE	REMARKS
V1	X				1	
V2	X	X		X	3	
V3		X		X	34	
V4			C		72	Full Red protection for 'P4' ped.
V5					-	See note 6
V6					-	See note 6
P1	X				3	
P2		X		X	31	
P3			X		1	
P4			X		1	
P5		X		X	31	
P6	X	X	X	X	-	See note 6
P7	X	X	X	X	-	See note 6

NOTES:

1. This site is SCATS linked
2. Audio-Tactile Push Buttons are provided . on posts 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15 and 16.
3. Special STOP sign (R1-4) placed on post 12.
4. Kerb ramps are constructed at all pedestrian crossings in accordance with Model Drawing MD.R173.B01.A.1.
5. Pedestrian fencing is constructed in accordance with model drawing MD.R201.C07.A, Type 1.
6. V5, V6, P6 and P7 displays associated with the slip lanes are to operate independently to the site. V5 and V6 are to rest in the "Off State" and P6 and P7 are to rest displaying "Dont Walk". Push buttons P6 and P7 demand will display V5 and V6 yellow then red and remain red until "Walk" and clearance has expired followed by "Off" state. P6 and P7 to have delay timer.
7. Supply to be determined at site by level 2/3 service provider.
8. Stoplines on Bringelly Road are 600mm wide.
9. Pedestrian lanterns on posts 6, 9, 11 and 14 to be angled down so they are not visible to pedestrians at posts 9,6,14 & 11 respectively.
10. 'BUS LANE' to be coloured red. Refer to RMS Delineation Manual and specification R110.
11. Refer to Registered Drawings No DS2013/001152 prepeared by URS for details of civil roadworks.
12. Barrier kerb to be provided on western island housing mast arm.
13. CCTV Camera installed on Post 7 outreach.

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABBS.	VD003-6
STOP VALVE	▲	STD POSIT	VD001-5
GAS VALVE	#	PRES. DETECT	VC005-17
SEWER MANHOLE	⊛	VEH, GROUP OP	TS-TN-019
TELECOM PIT	◪	DET, LOGIC OP	TS-TN-020
ELECT LIGHT POLE	☌	PED, MOVEMNT OP	TS-TN-021
POWER POLE	○		
STAY POLE	⊘		
TELEPHONE BOX	⚿	SURVEYOR : T. Van Kouterik	
TELECOM PILLAR	◒	DATE : 14/6/2013	

U.B.D. Ref. Map 267 A16
I.S.G. E: 284 273
CO-ORDS N: 1 241 764
DESIGNED J. SINGH
CHECKED C. TOMA
C. TOMA
SITE CHECKED
B. LO
RECOMMENDED

DESIGN APPROVAL
APPROVED
R.NETTLE
POSITION DIRECTOR
DATE 30.10.2015
DESIGN PREPARED BY
TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

RMS ACCEPTANCE
RECOMMENDED
POSITION
DATE
ACCEPTED
POSITION
DATE

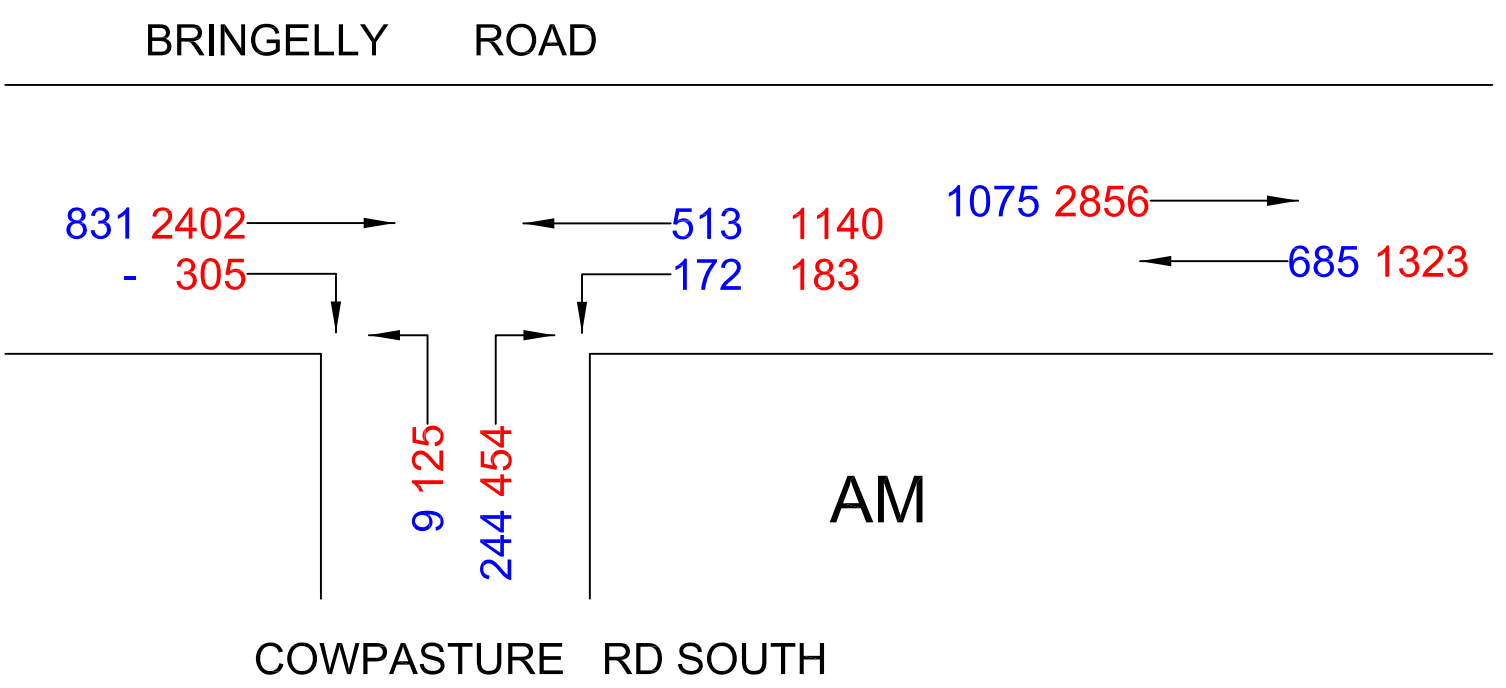
ROADS AND MARITIME SERVICES

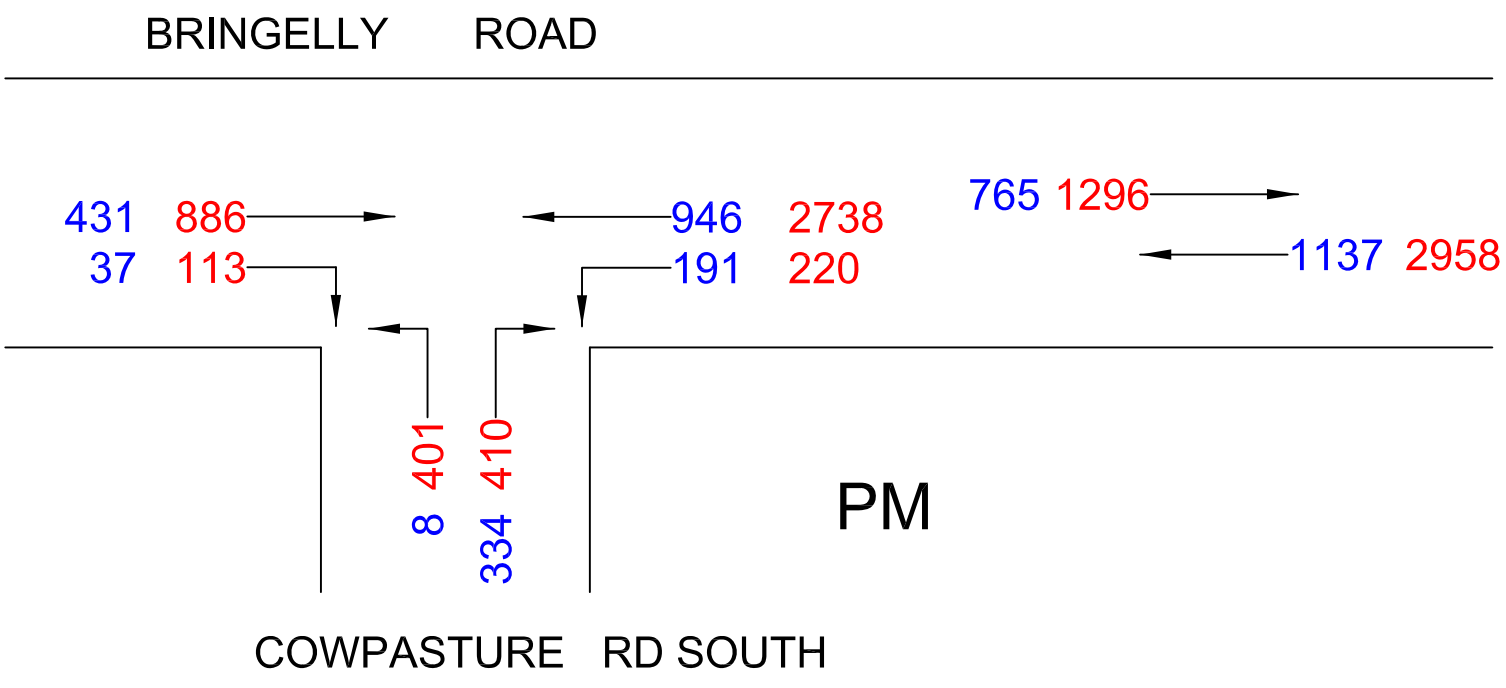
LIVERPOOL COUNCIL AREA
TRAFFIC SIGNALS AT
BRINGELLY ROAD (MR647) AND
WESTERN SYDNEY PARKLANDS ACCESS
LEPPINGTON

DESIGN LAYOUT TCS No 4589

EXISTING ☐ PROPOSED ☒
CADD FILE: VV4589_1A.dgn
SCALE 5 0 (1:200) 5 10
ISSUE A
FILE SF2014/014824
SUPERSEDES SHEET/ISSUE -/-
REG No. DS2014/004956
TCS No. 4589
SHEET 1

Revision 1 - August 2014



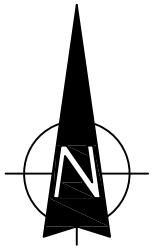


LEGEND

2016 VOLUMES

2031 VOLUMES

Source : Aecom Traffic Modelling & RMS Data



PROJECTED 2016 & 2031 TRAFFIC VOLUMES

FIG 5

	Level of Service	
	AM	**PM**
2016	A	A
2026	B	B
2031	B	C
2036	C	C

The criteria for interpreting SIDRA Level of Service output is reproduced overleaf.

The traffic assessment[1] undertaken for the SSD for BRBH revealed that a satisfactory LOS D would prevail at the Bringelly Road access intersection with full development and the projected 2026 traffic volumes on Bringelly Road. However, it would now appear that the nature of development uses that will eventuate on BRBH will be of a much lower traffic generation nature than envisaged for the SSD process.

1 *Bringelly Road Business Hub*
Assessment of Potential Access
Traffic and Transport Implications
TTPA December 2014

4. SUSTAINABLE TRAVEL PLAN

Achieving a sustainable non-car travel mode outcome for the proposed development will be facilitated by:

- The bus stops that will be provided in the bus bays located on both sides of Bringelly Road adjacent to the BRBH access intersections. The bus services will provide connections to the surrounding residential areas, the railway stations at Leppington and Liverpool and inter-connection with other regional bus services.
- The shared path provided along the northern side of Bringelly Road which will connect to the regional bicycle and pedestrian network
- The provision of traffic signals at the Bringelly Road and BRBH access intersection which will incorporate pedestrian and cyclist crossing facilities
- The provision of lockers and shower facilities
- The provision for bicycle parking

A Green Travel Plan incorporating a Transport Access Guide will be prepared and submitted as part of the Construction Certificate documentation.

5. PARKING

Application of the SSD parking criteria to the proposed development would indicate the following:

Warehouse	9,210m^2	@ 1 per 300m^2	31 spaces
Office	800m^2	@ 1 per 40m^2	20 spaces
Bulk Store	521m^2	@ 1 per 300m^2	2 spaces
		Total:	**53 spaces**

It is proposed to provide a total of 70 parking spaces and this will accommodate visitor parking and shift change circumstances. The provision will include 1 accessible space and it is apparent that this will be a quite adequate parking provision for the needs of the development.

6. TRAFFIC

The RMS Development Guidelines specify a generation characteristic for warehouse use of 0.5 vtph per 100m^2 GFA, however the latest RMS data (TDT-2014/4B) for Erskine Park and Wonderland Business Park indicates a rate for contemporary large warehouses in the network peaks of some 0.2 vtph per 100m^2. Application of this criteria to the proposed development would indicate following outcome for the morning and afternoon peak periods:

10,696m^2 @ 0.2 vtph per 100m^2 - 21vtph

The average daily traffic factor from the 2 RMS studies was 2.1 vtph per 100m^2 therefore the projected daily traffic is 225 vpd (weekday) and the projected "make up" of vehicles is:

Cars	-	70%
Rigid Trucks	-	17%
Articulated Trucks	-	13%

The Traffic Assessment for the BRBH (SSD 6324) identified a projected total traffic generation for the 18.5ha of developable land of:

AM 536 vtph	-	29 vtph per ha
PM 1,064 vtph	-	57.5 vtph per ha
WEMD 1,818 vtph	-	98.3 vtph per ha

The proposed development on Lot 8 of 2.2ha is assessed to generate only 9.5 vtph per ha in the AM and PM peaks.

It is apparent that the traffic generation outcome for the proposed development will be far less than that addressed in the approved SSD assessment. Accordingly, the development will not present any unsatisfactory implications for the road system particularly as the Bringelly Road access intersection will have traffic signal control.

During the construction process, there will be a maximum of 10-15 workers on the site and it is apparent that the traffic activity during this process will be less than that when the development is completed and operational.

7. CONSTRUCTION TRAFFIC MANAGEMENT PLAN

A Construction Traffic Management Plan has been prepared for the Early Works processes for the BRBH. The elements of the Indicative Construction Traffic Management Plan in respect of SSD8900 are as follows:

* Construction Hours
  As per Consent Condition

* Hoarding/Fencing
  'A; Class fencing on site boundaries

* Vehicle Access
  Driveway located towards western site boundary

* Truck Access
  Via Bringelly Road access with Traffic Controller Supervision unless traffic control signals are operational

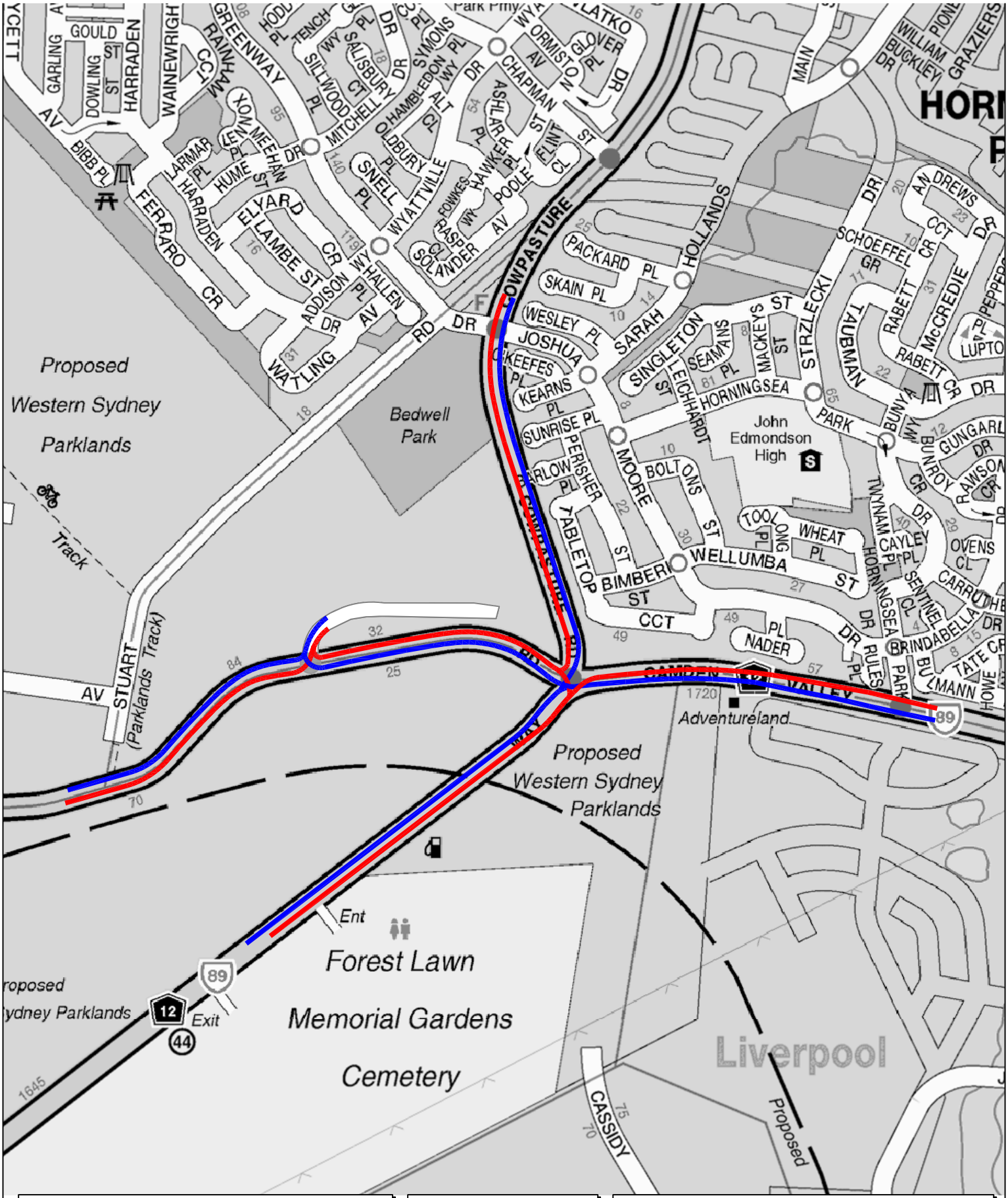
* Truck Routes
  See Figure 5

* Establishment, Earthworks and Services
  3 weeks with 10-15 truck visitations per day

* Construction
  35 weeks with 4-5 truck deliveries per day (more during major concrete pours)

* Materials Handling and Storage
  All contained within the site.

A detailed CTMP will be submitted as part of the Construction Certificate process when a builder has been appointed.



LEGEND

ARRIVAL

DEPARTURE

N

TRUCK ROUTES

FIG 5

8. ACCESS, INTERNAL CIRCULATION AND SERVICING

ACCESS

The proposed vehicle access driveways for the development comprise:

* 12m wide access driveways located at the site boundaries for truck ingress and egress

* separate access driveways for the carpark access

These driveways will accord with AS2890.1 and 2 design requirements, being located where good sight distances will be available.

INTERNAL CIRCULATION

The design of the internal arrangements including truck manoeuvring, carpark aisles/bays etc have been designed in accordance with AS2890.1, AS2890.2 and AS2890.6. Truck turning paths showing the satisfactory provision for circulation movements of articulated vehicles are provided in Appendix B.

SERVICING

There will only be a relatively minor level of servicing required for the developments (i.e. apart from receipt and dispatch movements). Refuse removal will be undertaken by contract vehicles while the expansive hardstand area will adequately provide for the standing of service vehicles.

9. CONCLUSION

The proposed warehouse for Nulon Motor Oils in the BRBH represents a typical contemporary Business Park development outcome. The assessment undertaken concludes that:

- the proposal is entirely consistent with the traffic analysis undertaken for the SSD (although the traffic generation outcome will be somewhat less)

- the proposal will not have any adverse traffic implications

- the proposed parking provision will be quite adequate and appropriate for the development and compliant with the SSD criteria

- the proposal will adequately provide for access, internal vehicle circulation and servicing

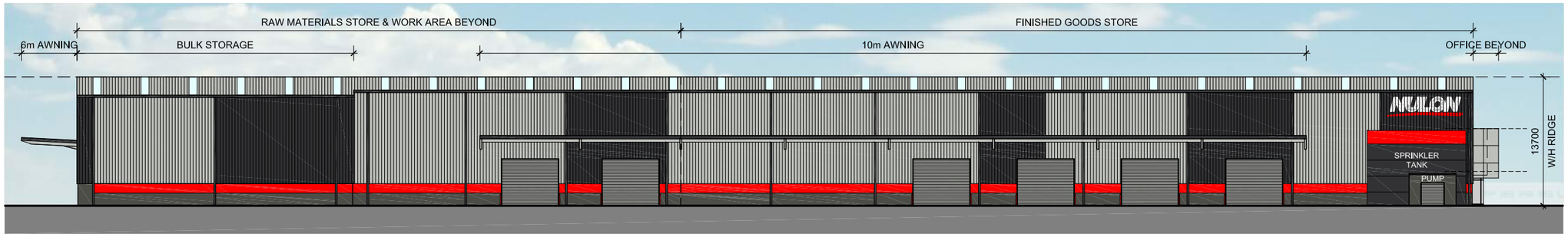
The SEARS include a requirement for consultation with authorities and copies of consultation emails with RMS and TfNSW are provided in Appendix C.

Appendix A

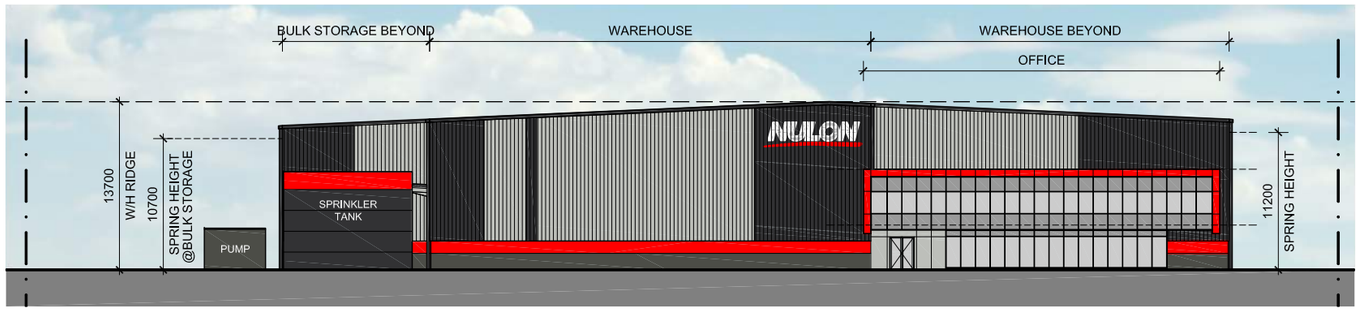
DEVELOPMENT PLANS

REVISIONS

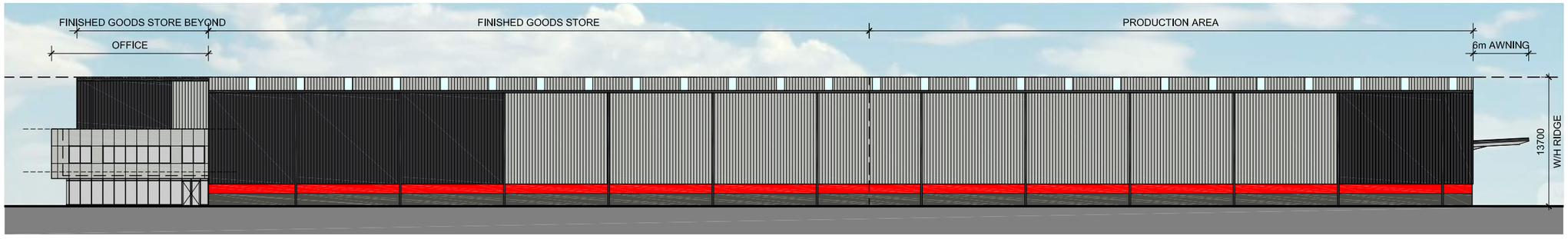
A	PRELIMINARY ISSUE	20.09.17



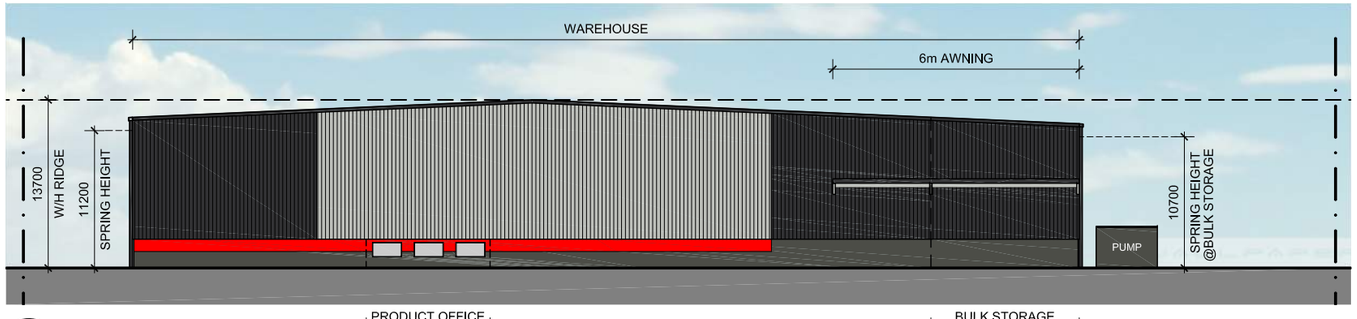
1 200 WEST ELEVATION
Scale 1:500



2 200 SOUTH ELEVATION
Scale 1:500



3 200 EAST ELEVATION
Scale 1:500



4 200 NORTH ELEVATION
Scale 1:500

Charter Hall

CIP DEVELOPING RELATIONSHIPS BUILDING SUCCESS

PROJECT

NULON MOTOR OILS

BRINGELLY ROAD
BUSINESS HUB, NSW

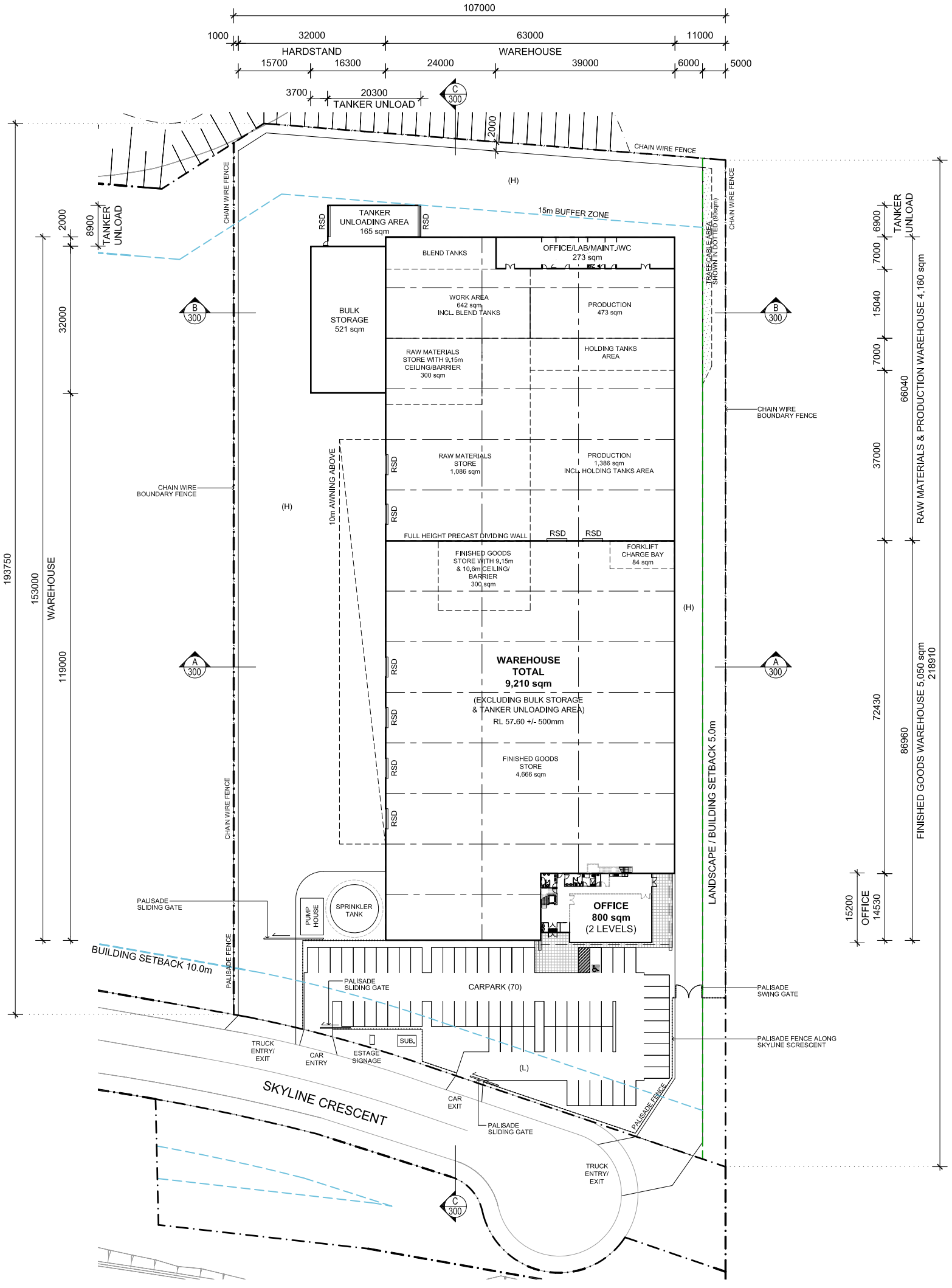
DRAWING TITLE
WAREHOUSE ELEVATIONS

0 2.5 5 7.5 10 15 20 25m
SCALE: 1:500 @ A3

CREATE DATE: 18.09.2017 PLOT DATE: 13.08.2014
LAST SAVED BY: mchung

2-319-277062-FS08 -200 A

FILE LOCATION: J:\Arch\Enquiries\NSW\2-319 Nulon Motor Oils\01_Feasibility\277062- Bringelly Rd Business Hub\2-319-277062-FS08



LOCATION PLAN

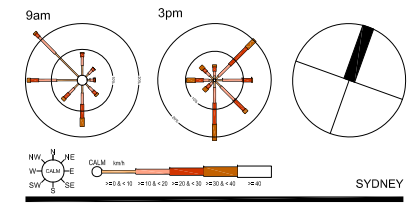
REVISIONS

1	Issued for coordination	10.11.17
2	Amended building footprint	21.11.17
3	PRELIMINARY	27.11.17
4	Amended tanker unloading area	14.12.17

NULON MOTOR OILS

SITE AREA	21,967 sqm
WAREHOUSE (INCLUDING OFFICE/LAB/MAINT./WC)	9,210 sqm
BULK STORAGE	521 sqm
TANKER UNLOADING AREA	165 sqm
OFFICE (2 LEVELS)	800 sqm
TOTAL BUILDING AREA	10,696 sqm
EFFICIENCY	48.69 %
AWNING (10m)	880 sqm
CARPARKING PROVIDED	70 spaces
HEAVY DUTY PAVEMENT (H)	7,317 sqm
LIGHT DUTY PAVEMENT (L)	1,796 sqm

Charter Hall



CIP DEVELOPING RELATIONSHIPS BUILDING SUCCESS

PROJECT

NULON MOTOR OILS

BRINGELLY ROAD
BUSINESS HUB, NSW

DRAWING TITLE
SITE PLAN

0 5 10 15 20 25 50m

SCALE: 1 : 1000 @ A3

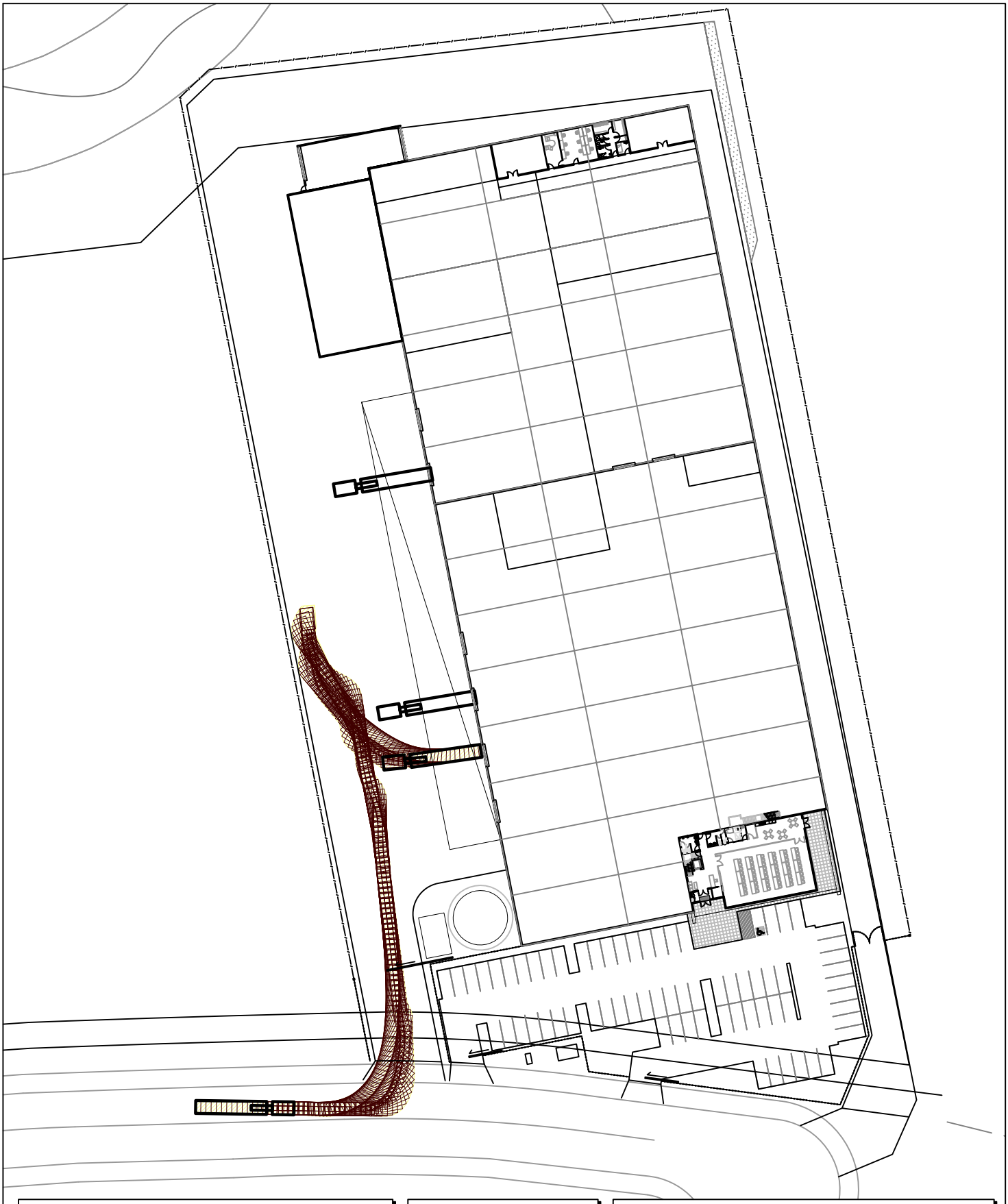
CREATE DATE : 08.12.2017
PLOT DATE : 14.12.2017
LAST SAVED BY: mchung

2-319-277062-DA -002 4

FILE LOCATION: J:\Arch\Enquiries\NSW\2-319 Nulon Motor Oils\02_DA\277062- Bringelly Rd Business Hub\2-319-277062-DA

Appendix B

TURNING PATH ASSESSMENT



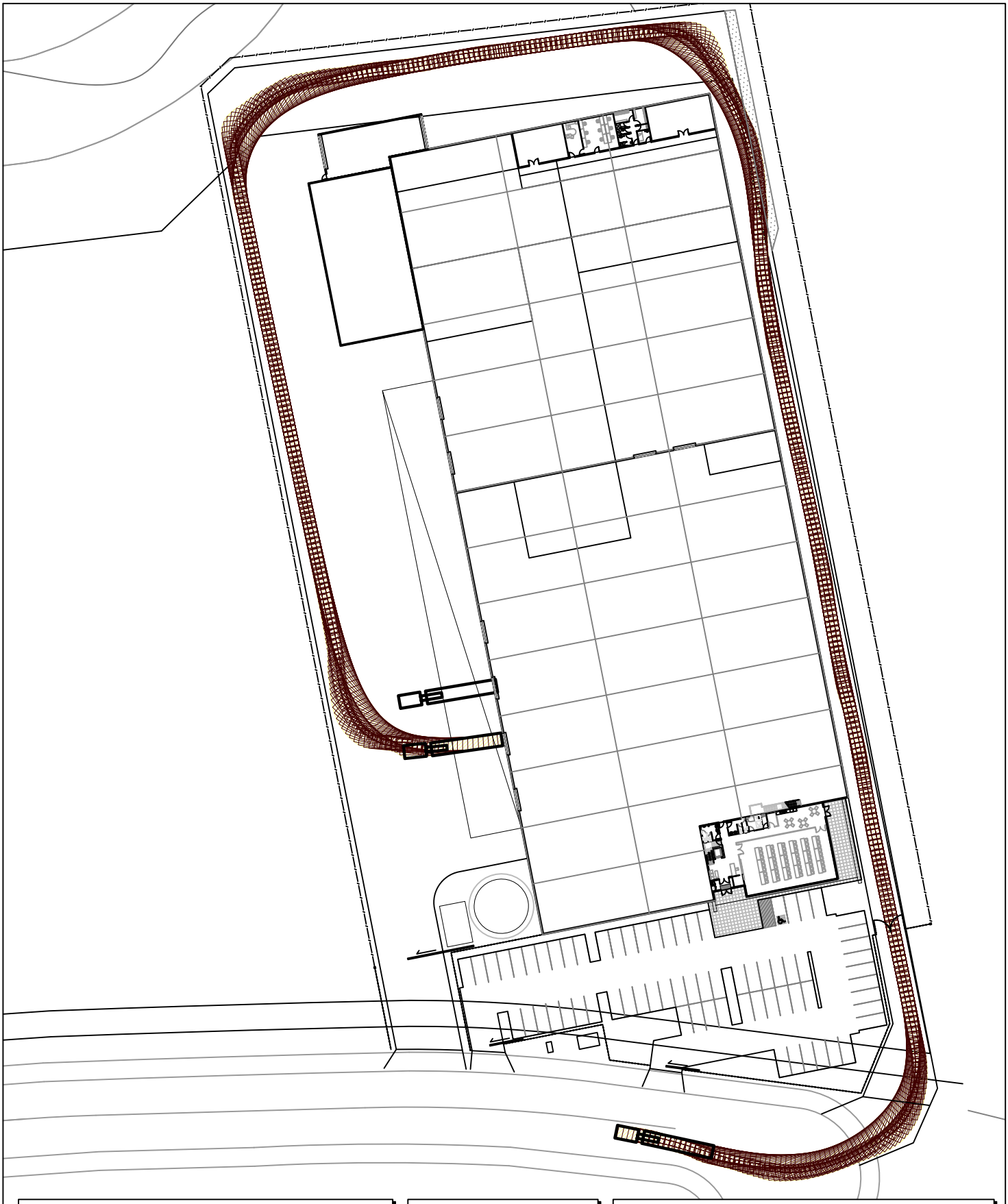
LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF AN 19m SEMI TRAILER ENTERING THE SITE

SP 1



LEGEND

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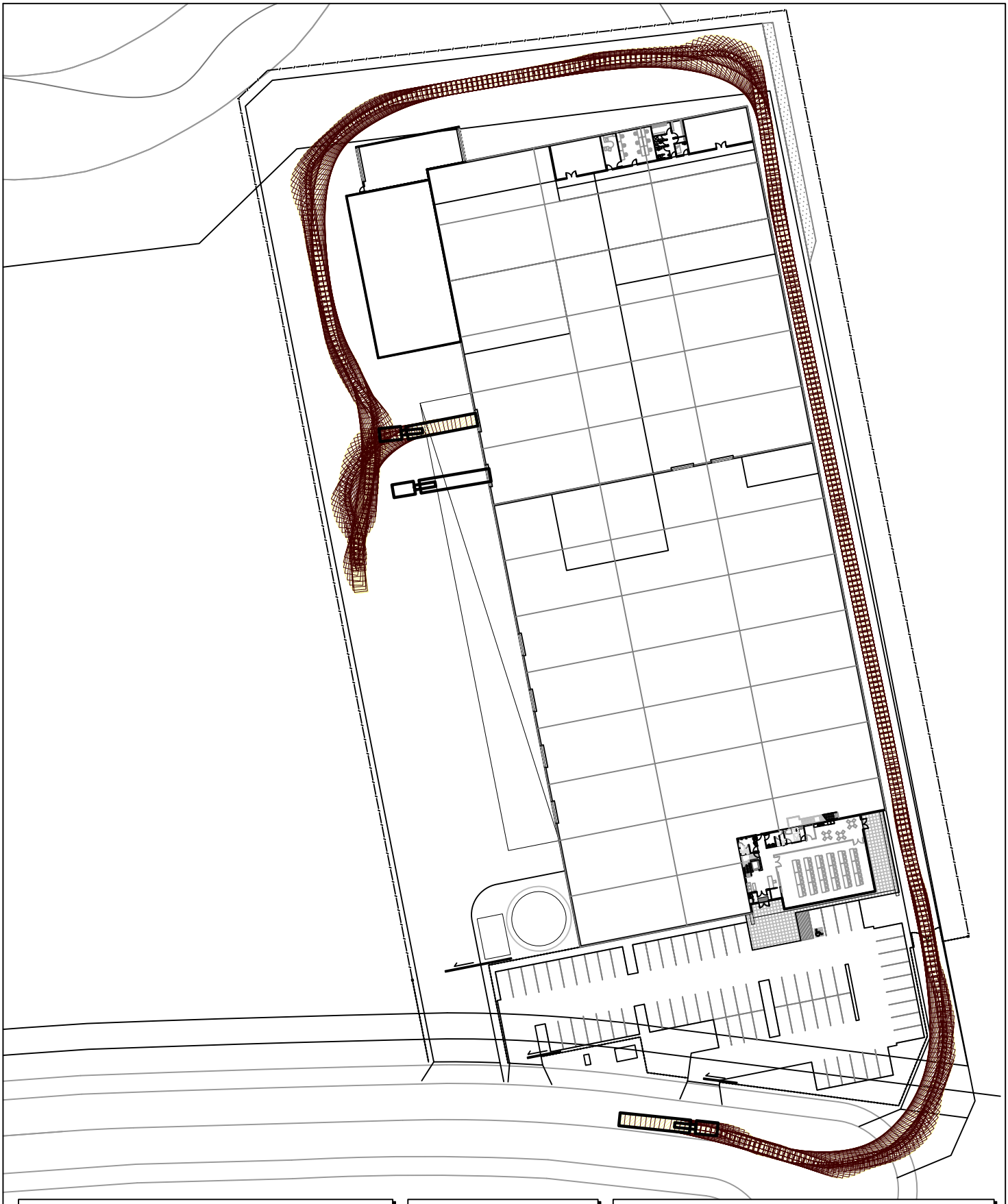
N

SWEPT PATH ANALYSIS OF AN 19m SEMI TRAILER EXITING THE SITE

SP 2



LEGEND

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N

SWEPT PATH ANALYSIS OF AN 19m SEMI TRAILER ENTERING THE SITE

SP 3

Appendix C

RMS AND TFNSW CONSULTATION

Ross Nettle

From: Ross Nettle
Sent: Monday, December 18, 2017 3:19 PM
To: 'Development Sydney'
Subject: ATT: Rachel Cumming RE: SSD 8900 Nulon Motor Oils Facility Lot 8 Bringelly Rd Business Hub (17184)

Rachel

The SEARS for this SSD require consultation with RMS and Transport of NSW to be undertaken. The Traffic and Access issues identified in the SEARS will be comprehensively addressed in the Traffic Impact Assessment which will be submitted back to Planning NSW.

The principal issues relative to the SEARS are:

- approval to the Concept Plan includes the provision of traffic signals at the Bringelly Road and BRBH Access intersection
- the projected traffic generation of the SSD will only be some 10 – 30% of that assessed for the Concept Plan for the BRBH
- there will be convenient access to bus services running along Bringelly Road connecting to Leppington and Liverpool railway stations as well as formal bicycle and pedestrian network connections.

CIP (developer) and TTPA (traffic consultant) would welcome any opportunity to discuss the proposal during the DA process.

Regards

Ross Nettle | Director

TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
Established 1994

Suite 502, Level 5, 282 Victoria Avenue, Chatswood NSW 2067
P (02) 9411 5660 F (02) 9904 6622 W ttpa.com.au

ttpa

Ross Nettle

From: Ross Nettle
Sent: Monday, December 18, 2017 3:42 PM
To: ken.ho@transport.nsw.gov.au
Subject: ATT: Ken Ho RE: SSD 8900 Nulon Motor Oils Facility Lot 8 Bringelly Rd Business Hub (17184)

Ken,

The SEARS for this SSD require consultation with RMS and Transport of NSW to be undertaken. The Traffic and Access issues identified in the SEARS will be comprehensively addressed in the Traffic Impact Assessment which will be submitted back to Planning NSW.

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